

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 79-77

NPDES PERMIT NO. CA0037648

WASTE DISCHARGE REQUIREMENTS FOR:

CENTRAL CONTRA COSTA SANITARY DISTRICT
CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Board) finds that:

1. Central Contra Costa Sanitary District, hereinafter called the discharger, submitted a report of waste discharge (NPDES Standard Form A) dated December 28, 1978.
2. The discharger provides sewage treatment service to 329,000 people in Central Contra Costa County. A dry-weather average of 29 million gallons a day of domestic and industrial wastewater is treated by lime clarification for phosphorous removal, activated sludge biological oxidation with nitrification, disinfection and dechlorination. Nominal design flow of facilities is 35 mgd. Treated effluent is discharged to Suisun Bay about 1600 feet offshore and 2500 feet west of the Avon Dock at a depth of 27 feet (Waste 001).
3. The discharger also receives 55,000 gallons per day of water treatment plant alum sludge from the Contra Costa County Water District. This sludge is pumped into lagoons and drying beds (Land Disposal Site L-1 and L-2) lying north and east of the discharger's treatment plant.
4. The discharger plans to provide filtration for a portion of the flow (about 15 mgd) and supply it to the Contra Costa Water District for subsequent treatment and reuse as industrial supply water.
5. The Board adopted the Water Quality Control Plan for the San Francisco Bay Basin on April 8, 1975, and amended it on November 15, 1977.
6. The beneficial uses of Carquinez Strait and contiguous waters are:
 - a. Recreation (contact and non-contact).
 - b. Fish migration and spawning.
 - c. Habitat for wildlife and estuarine organisms including some rare and endangered species.
 - d. Industrial water supply.
 - e. Esthetic enjoyment.
 - f. Navigation.
 - g. Commercial and sport fishing.
7. This project involves the continued operation of a publicly-owned facility to provide sewerage service with negligible or no expansion of use beyond that previously existing. Consequently, this project will not have a significant effect on the environment and is exempted from the requirements of the California Environmental Quality Act as provided in Section 15101, Title 14, California Administrative Code.

8. Effluent limitations and toxic and pretreatment effluent standards established pursuant to Sections 208b, 301, 302, 303d, 304, and 307 of the Federal Water Pollution Control Act are applicable to the discharge.
9. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
10. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, the Central Contra Costa Sanitary District, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and provisions of the Federal Water Pollution Control Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Effluent Limitations

1. The discharge of waste in excess of the following limits is prohibited:

<u>Constituent</u>	<u>Units</u>	<u>30-Day Average</u>	<u>7-Day Average</u>	<u>Daily Maximum</u>
a. Settleable Matter	ml/l-hr	0.1		0.2
b. BOD	mg/l	30	45	60
	kg/day	5690		18200
c. Suspended Solids	mg/l	30	45	60
	kg/day	5690		18200
d. Oil & Grease	mg/l	10		20
	kg/day	1900		6060
e. Chlorine Residual	mg/l			0.0

2. The arithmetic mean of the values for BOD and Suspended Solids effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of respective values for influent samples collected at approximately the same times, during the same period. (85 percent removal)

3. Representative samples of the effluent shall not exceed the following limits more than the percentage of time indicated: (a)

<u>Constituent</u>	<u>Unit of Measurement</u>	<u>50% of time</u>	<u>10% of time</u>
Arsenic	mg/l (kg/day)	0.01 (1.89)	0.02 (6.06)
Cadmium	mg/l (kg/day)	0.02 (3.79)	0.03 (9.10)
Total Chromium	mg/l (kg/day)	0.005 (0.947)	0.01 (3.03)
Copper	mg/l (kg/day)	0.2 (37.9)	0.3 (91.0)
Lead	mg/l (kg/day)	0.1 (18.9)	0.2 (60.7)
Mercury	mg/l (kg/day)	0.001 (0.189)	0.002 (0.607)
Nickel	mg/l (kg/day)	0.1 (18.9)	0.2 (60.7)
Silver	mg/l (kg/day)	0.02 (3.79)	0.04 (12.1)
Zinc	mg/l (kg/day)	0.3 (56.9)	0.5 (151.)
Cyanide	mg/l (kg/day)	0.1 (18.9)	0.2 (60.7)
Phenolic Compounds	mg/l (kg/day)	0.5 (94.8)	1.0 (303.)
Total Identifiable Chlorinated Hydrocarbons	mg/l (kg/day) (b)	0.002 (0.379)	0.004 (1.21)

(a) These limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.

(b) Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.

4. The total coliform bacteria for a median of five consecutive effluent samples shall not exceed 240 per 100 milliliters. Any single sample shall not exceed a most probable number (MPN) of 10,000 total coliform bacteria when verified by a repeat sample taken within 48 hours.
5. The discharge shall not have a pH of less than 6.0 nor greater than 9.0.
6. In any representative set of samples the waste as discharged shall meet the following limit of quality:

Toxicity: The survival of test fishes in 96-hour bioassays of the effluent shall achieve a 90 percentile value of not less than 50% survival for 10 consecutive samples.

B. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place.
- Floating, suspended, or deposited macroscopic particulate matter or foam;
 - Bottom deposits or aquatic growths;
 - Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

- d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
- a. Dissolved oxygen 7.0 mg/l minimum. Annual median - 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
 - b. Dissolved sulfide 0.1 mg/l maximum.
 - c. pH Variation from natural ambient pH by more than 0.2 pH units.
 - d. Un-ionized ammonia as N 0.025 mg/l annual median
0.4 mg/l maximum
3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

C. Land Disposal Requirements

- 1. The handling, treatment and storage of alum sludge shall not cause sludge to be in any position where it is, or can be carried from Land Disposal Site "L-1" and "L-2" and deposited in waters of the State.
- 2. Land Disposal Site "L-1" and "L-2" shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage of the materials from the disposal site.
- 3. The disposal of Group 1 material as defined in the California Administrative Code, Article 3, Section 2520, in Land Disposal Site "L-1" and "L-2" is prohibited.

D. Discharge Prohibitions

1. Bypass or overflow of untreated wastewater to waters of the State either at the treatment plant or from the collection system is prohibited.
2. Average dry weather flow shall not exceed 35.0 mgd as determined over three consecutive months each year.
3. Discharge of waste where it does not receive a minimum initial dilution of 10:1 is prohibited.

E. Provisions

1. Neither the treatment nor the discharge of pollutants shall create a nuisance as defined in the California Water Code.
2. All wastewater ponds and lagoons shall be maintained with a sufficient freeboard to assure containment of waste.
3. The discharger shall review and update annually its contingency plan as required by Regional Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
4. The discharger shall comply with the Self-Monitoring Reporting Program as ordered by the Executive Officer.
5. Orders 74-95, 76-107, 77-16, 77-115 and 78-62 are hereby rescinded with the exception of requirements D.1 and B.2.c of Order 74-95 and B.2.c. of Order 76-107 which shall remain in effect until Cleanup and Abatement Order 79-001 is rescinded by the Executive Officer.
6. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements" dated April 1977 except A.12, A.16 and B.3.
7. This permit shall be modified, or alternatively revoked and reissued as soon as practicable to incorporate an approved publicly owned treatment work (POTW) pretreatment program or a compliance schedule for the development of a POTW pretreatment program as required under Section 402(b)(8) of the Clean Water Act and implementing regulations or by the requirements of the approved state pretreatment program as appropriate.
8. This Order becomes effective immediately, and expires June 19, 1994. The discharger must file a Report of Waste Discharge not later than 180 days in advance of such date as an application for issuance of new waste discharge requirements.

9. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall take effect at the end of ten days from the date of hearing provided the Regional Administrator of the U. S. Environmental Protection Agency has no objections.
10. The discharger shall submit an engineering study by May 1, 1980, that contains calculations of the return frequency of floods that would overtop the existing levees of Land Disposal Sites L-1 and L-2, and an estimate of the cost for necessary facilities to provide 20-year and 100-year frequency flood protection.
11. The discharger shall submit by September 1, 1980, an engineering study documenting (1) ability to comply with this Order during wet weather, or (2) a description of facilities with their costs and implementation schedules needed to assure compliance. Analysis shall include wet weather holding basins with (1) required 2 foot freeboard, and (2) alternative freeboard limits and controls that assure containment of waste.

I, Fred H. Dierker, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on June 19, 1979.

FRED H. DIERKER
Executive Officer

Attachments:

Standard Provisions & Reporting Requirements 4/77
Resolution No. 74-10
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

Central Contra Costa Sanitary District

Contra Costa County

NPDES NO. CA 0037648

ORDER NO. 79-77

CONSISTS OF

PART A, January 1978

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT AND INTAKE

<u>Station</u>	<u>Description</u>
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present. (May be the same as E-001-D.)
E-001-D	At any point in the disinfection facilities for Waste E-001 at which point adequate contact with the disinfectant is assured.
E-001-S	At any point in the disposal facilities following dechlorination.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point in Suisun Bay, located within 25 feet of the point of discharge from the outfall diffuser section.
C-2	At a point in Suisun Bay, located 100 feet generally west from the diffuser section of the outfall line.
C-3	At a point in Suisun Bay, located 100 feet generally north from the offshore end of the diffuser section of the outfall line.
C-4	At a point in Suisun Bay, located 100 feet generally east from the diffuser section of the outfall line.
C-5	At a point in Suisun Bay, located 100 feet generally south from the shoreward end of the diffuser section of the outfall line.

<u>Station</u>	<u>Description</u>
C-R	At a point in Suisun Bay, located 1,000 feet up current from the diffuser section of the outfall line in waters of the same depth (~ 5 feet) as station C-1 and not located in the dredged channel.

D. LAND OBSERVATIONS

<u>Station</u>	<u>Description</u>
P-1 thru P-'n'	Located along the periphery of the waste treatment or disposal facilities, at equidistant intervals, not to exceed 200 feet. (A sketch showing the locations of these stations will accompany each report.)
L-1 thru L-'n'	Located along the perimeter levee of lagoons and drying beds at equidistant intervals not to exceed 300 feet. (A sketch showing the locations of these stations will accompany each report.)

E. OVERFLOWS AND BYPASSES

<u>Station</u>	<u>Description</u>
OV-1 through OV-'n'	Bypass or overflows from manholes, pump stations or collection system owned, operated, or maintained by permittee. Note: Initial SMP report to include map and description of each known bypass or overflow location.

Reporting - Shall be submitted monthly and include date, time, and period of each overflow or bypass.

F. MISCELLANEOUS REPORTING

1. The monthly average percent removal of suspended solids and BOD₅ shall be calculated using influent and effluent mass emissions, rather than concentrations.

II. SCHEDULE OF SAMPLING AND ANALYSIS

- A. The schedule of sampling and analysis shall be that given as Table I.

III. MODIFICATIONS OF PART A

- A. The Self-Monitoring Program does not include the following paragraphs of Part A:

C.3., C.4., C.5.a.4., C.5.a.6., C.5.c, C.5.d.4.

I, Fred H. Dierker, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 79-77.
2. Is effective on the date shown below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

FRED H. DIERKER
Executive Officer

Effective Date _____

Attachments:

Table I
Form A
Map

TABLE I
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-001	E-001	E-001-D	E-001-S	C	L	O
TYPE OF SAMPLE	C-24	G C-24 Cont	G C-24 Cont	G C-24 Cont	G	G	O O
Flow Rate (mgd)	D	D					
BOD, 5-day, 20° C, (mg/l & kg/day)	D	D					
Chlorine Residual & Dosage (mg/l & kg/day)			2H or cont				
Settleable Matter (ml/1-hr. & cu. ft./day)		D					
Total Suspended Matter (mg/l & kg/day)	D	D					
Oil & Grease (mg/l & kg/day)	2W	2 W					
Coliform (Total) (MPN/100 ml) per req't			5/W				
Fish Toxicity, 96-hr. TL ₅₀ & % Survival in undiluted waste					2/M		
Ammonia Nitrogen (mg/l & kg/day)		W				3M	
Nitrate Nitrogen (mg/l & kg/day)		M					
Nitrite Nitrogen (mg/l & kg/day)		M					
Total Organic Nitrogen (mg/l & kg/day)		M					
Total Phosphate (mg/l & kg/day)		M					
Turbidity (Jackson Turbidity Units)		W				3M	
pH (units)		D				3M	
Dissolved Oxygen (mg/l and % Saturation)		D				3M	
Temperature (°C)		D				3M	
Salinity (ppt)						3M	
Chlorine Residual (mg/l)					2H or cont (2)		
Sulfides (if DO < 5.0 mg/l) Total & Dissolved (mg/l)							
Arsenic (mg/l & kg/day)		3M					
Cadmium (mg/l & kg/day)		3M					
Chromium, Total (mg/l & kg/day)		3M					
Copper (mg/l & kg/day)		3M					
Cyanide (mg/l & kg/day)		3M					
Silver (mg/l & kg/day)		3M					
Lead (mg/l & kg/day)		3M					

TABLE I (continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-001	E-001			E-001-D			E-001-S		C	L	O	
TYPE OF SAMPLE	C-24	G	C-24	Cont	G	C-24	Cont	G	Cont	G	O	O	
Mercury (mg/l & kg/day)			3M										
Nickel (mg/l & kg/day)			3M										
Zinc (mg/l & kg/day)			3M										
PHENOLIC COMPOUNDS (mg/l & kg/day)			3M										
All Applicable Standard Observations		D								3M	M (3)	E	2/
Bottom Sediment Analyses and Observations													
Total Identifiable Chlorinated Hydrocarbons (mg/l & kg/day)			3M										
Un-ionized ammonia as N (mg/l)										3M			

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
 C-24 = composite sample - 24-hour
 C-X = composite sample - X hours
 (used when discharge does not
 continue for 24-hour period)
 Cont = continuous sampling

O = observation

TYPES OF STATIONS

A = treatment facility influent stations
 E = waste effluent stations
 C = receiving water stations
 L = basin and/or pond levee stations

FREQUENCY OF SAMPLING

E = each occurrence
 H = once each hour
 D = once each day
 W = once each week
 M = once each month
 Y = once each year

2/H = twice per hour
 2/W = 2 days per week
 5/W = 5 days per week
 2/M = 2 days per month
 2/Y = once in March and
 once in September
 Q = quarterly, once in
 March, June, Sept.
 and December

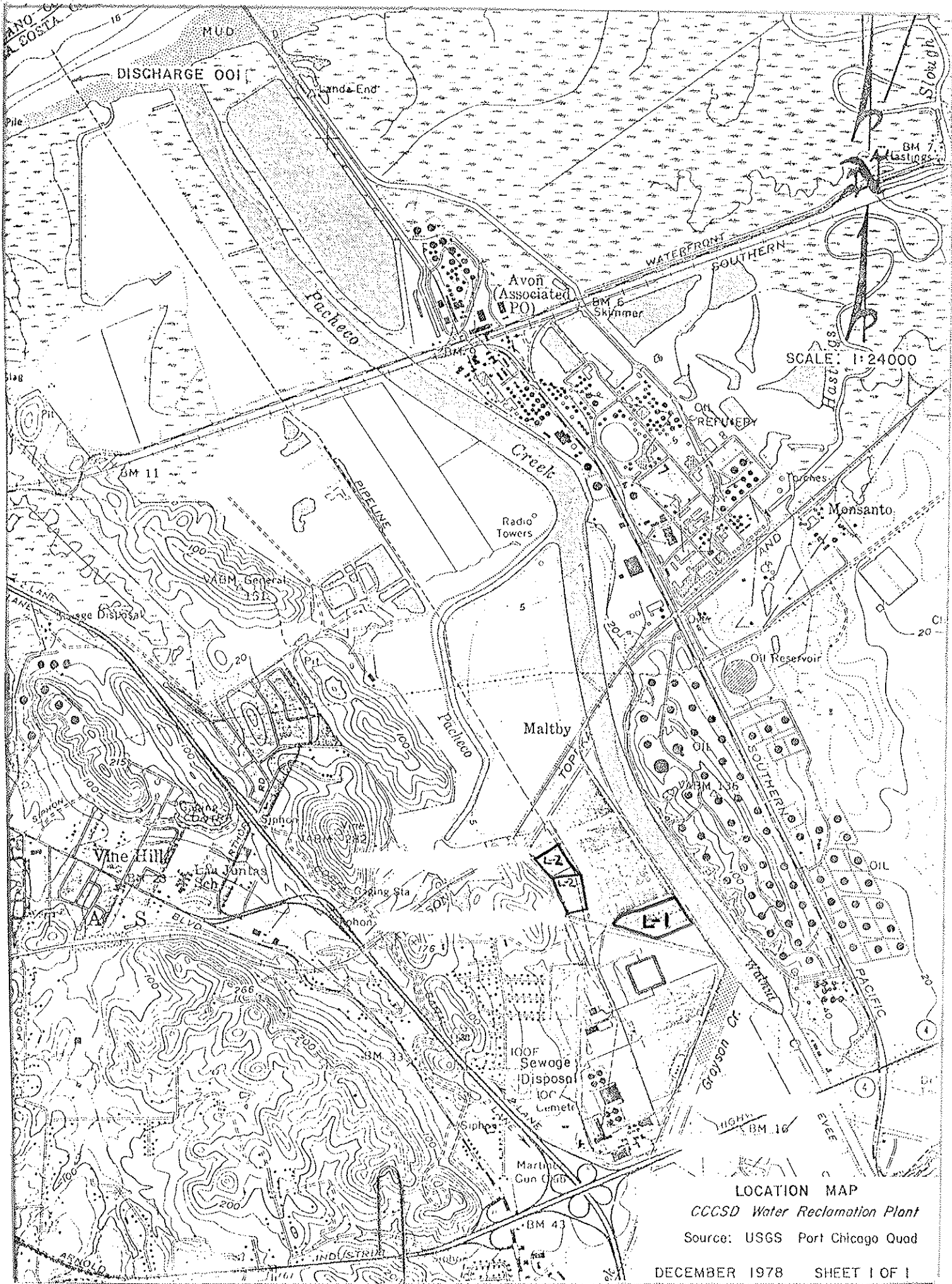
2H = every 2 hours
 2D = every 2 days
 2W = every 2 weeks
 3M = every 3 months
 Cont = continuous

FOOTNOTES FOR TABLE I

- (1) Oil and grease sampling shall consist of 3 grab samples taken at 8-hour intervals during the sampling day, with each grab being collected in a glass container. A composite shall be made consisting of equal volumes of each grab sample. Each glass container used for sample collection or mixing shall be thoroughly rinsed with solvent as soon as possible after use, and the solvent rinsings shall be added to the composite wastewater sample for extraction and analysis.
- (2) Dechlorinated effluent chlorine residual shall be reported using Form A attached or equivalent.
- (3) Freeboard in each basin relative to lowest point on dike shall be reported.

FORM A
CHLORINE RESIDUAL

[illegible]



LOCATION MAP
CCCSD Water Reclamation Plant
Source: USGS Port Chicago Quad
DECEMBER 1978 SHEET 1 OF 1